

Title (en)
THERMALLY-BONDED GLASS-CERAMIC/GLASS LAMINATES, THEIR USE IN ARMOR APPLICATIONS AND METHODS OF MAKING SAME

Title (de)
WÄRMEGEBUNDENE GLAS-KERAMIK-/GLASLAMINATE, IHRE VERWENDUNG IN SCHUTZANWENDUNGEN UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)
STRATIFIÉS DE VERRE/CÉRAMIQUE THERMOCOLLÉS, LEUR UTILISATION DANS DES APPLICATIONS D'ARMATURES ET LEURS PROCÉDÉS DE FABRICATION

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Application
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Abstract (en)
[origin: WO2008150355A1] The invention is directed to direct bonding of a glass-ceramic to one or a plurality glass layers to form a transparent laminate, thereby eliminating one or more of the polymer interlayers between the glass-ceramic and glass layer, and between the individual glass layers of the transparent laminate when more than one glass layer is present. The direct bonding eliminates or minimizes any deleterious effects of temperature and humidity that can occur when polymer interlayers are used to effect glass-ceramic/glass and/or glass/glass bonding in transparent laminates. The bonding is carried out in ambient atmosphere at a temperature between the softening and strain points of the "softer" or "lower softening point" material, typically the glass material, and is carried out without the use a polymer interlayer or adhesive, or the application of a voltage. The glass-ceramic/glass laminates can be used in transparent armor applications, particularly when combined with a spall catcher layer that is bonded to the glass layer furthest from the glass-ceramic layer.

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